ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D. C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2, 21 and 94	)	RM-7872
of the Commission's Rules	)	
Concerning Channel Assignments	)	
in the 27.5-29.5 gHz Band	)	

To: The Commission

PETITION FOR PIONEER'S PREFERENCE

UNIVERSITY OF TEXAS - PAN AMERICAN

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PETITION FOR PIONEER'S PREFERENCE

The University of Texas-Pan American ("UT-PA") hereby petitions for a pioneer's preference in the captioned rule making proceeding.[1] The innovator of the technology which is the predicate for this proceeding is Suite 12 Group, whose research efforts over the last several years have culminated in the development of a new point-to-multipoint video distribution technology ("MLDS") utilizing the 27.5 - 29.5 gHz spectrum.[2] As demonstrated below, UT-PA plans to employ the MLDS technology in a radically innova-

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1 UT-PA filed applications to construct stations in the 28.5 - 29.5 gHz band on April 10, 1992, proposing service to the Brownsville and McAllen MSAs. On the same day, UT-PA filed an application for an experimental license covering the same service area. While Brownsville and McAllen technically comprise two MSAs, the areas are indistinguishable so far as the needs of the four-county Rio Grande Valley area are concerned. Accordingly, should this preference request be granted, UT-PA asks that it accrue to both applications.

2 Suite 12 Group filed a pioneer's preference request on September 23, 1991, seeking entitlement to a preference with respect to its Part 21 application to establish an MLDS facility at San Francisco.

tive way in order to ameliorate a critical lack of educational opportunities for the residents of the Rio Grande Valley of Texas. UT-PA's plan, when implemented, will fundamentally alter systemic deficiencies in a culture which is the most educationally and economically deprived in the entire United States. Because our proposal is not merely an implementation of the Suite 12 Group technology, but an innovative extension of its potential which will bring the technology "to a more advanced or effective state," UT-PA's preference request qualifies for consideration under the FCC's pioneer preference rules. 47 C.F.R. § 1.402(a). See Memorandum Opinion and Order (General Docket No. 90-217), FCC 92-57, released February 26, 1992.[3]

I. INTRODUCTION

The instant proposal is an idea borne of dire necessity. The Rio Grande Valley of Texas, comprised of a four county area bordering Mexico along the Rio Grande River, is the Nation's most impoverished and educationally deprived region. As the central institution of learning in the Valley, UT-PA shoulders an enormous responsibility to provide Valley residents the quantity and range of educational resources necessary to improve their quality of life.

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3 We note that in committing the staff, financial and technical resources to implementing its plan, UT-PA is acting on behalf of itself and all other component institutions of the University of Texas System. With an ample endowment and superb research facilities, the University of Texas is a nationwide leader in scientific research.

UT-PA believes that education is the key to a fundamental revitalization of daily life in this region. However, severe impediments to providing necessary educational resources are indigenous to the Valley. The Valley contains approximately 200,000 households in an area roughly 100 miles long and anywhere from 20 to 30 miles wide. With few educational outlets to be found, residents simply do not have adequate formal learning opportunities. More problematic, however, is that even families which are within range of UT-PA or one of its extensions, are disinclined to take advantage of such resources because of an apprehension about the university campus proper. To understand this, it must be remembered that an astonishingly high percentage of UT-PA's students are the first in their families ever to set foot on a university campus. That life-experience is fundamentally alien to a majority of the people who reside in the Valley. For these reasons, UT-PA has been studying for some time the prospect of delivering the university's resources directly to homes. Driven by this over-arching goal, UT-PA has developed a plan which employs the MLDS concept by building upon the university's experience and research in the field of distance learning.

II. UT'S DISTANCE LEARNING EXPERIMENT: INITIAL RESULTS

The University of Texas System presently operates an interactive compressed digital video network distributed to most of its campuses state-wide via T-1 fiber and microwave services. Curricular material is delivered daily by this network between the

individual component institutions. The system provides the capability to deliver and receive the compressed and digitized audio and video signals between any two points in the network.

UT's distance learning experiment has been endorsed by the Texas State Higher Education Coordinating Board, the final arbiter of formal course quality in the state. The Board's rules mandate prior approval for all recognized for-credit course work delivered by means of telecommunications, including the delivery of curricular material by non-conventional methods. The burden of proof to gain the Board's imprimatur is quite substantial. UT recently presented findings to the Board demonstrating the soundness of its interactive two-way systems and the Board has ruled that courses delivered over the T-1 configuration be treated as if delivered by faculty at an on-campus site, thus giving validity to UT-PA's initiatives in this connection.

While the initial results of UT's distance learning initiative have been extremely encouraging, the network has significant limitations. Chief among these is a restricted point-to-point delivery capability due to the serial nature of the network's configuration. In some cases, students may have to travel as far 100 miles to reach a receive site. Additionally, because the existing video system is a point-to-point design, classroom space and network access are severely restricted. Faculty members are forced to teach multiple sessions of a course in order to accommodate all of the students wishing to enroll.

The multipoint and two-way capabilities of the MLDS technology, utilized within the proposed cross-polarized cellular system, will completely eliminate these barriers and provide an unprecedented level of public access to the University's educational resources. Indeed, the two-way capability afforded by the MLDS technology will permit a level of academic flexibility and expansion previously unheard of in higher education. Where the technology can deliver the educational material, any suitable public room can be converted to a setting for classes, seminars or other services to the citizens of the region.

We have also taken great care to explore the system's capability to handle data and voice as well as video in an interactive mode. The term "last mile technology" is often used to describe the means employed to bridge the gaps which are commonly encountered in delivering institutional services to small facilities and individual users.

The limiting factors, in most cases, in realizing this concept have been the speed limitations of wire networks and the high costs involved in installing fiber networks. Our planned utilization of the MLDS concept will effectively eliminate this barrier of speed and funding. The technology offers the potential for fiber speed over a transmitted medium while making extremely efficient use of the available spectrum. In essence, the University will employ tools for crossing the gaps so often encountered when dealing with last mile technologies. UT-PA will elevate the idea of the "the library without walls and clocks" to "the univer-

sity without walls and clocks" by conforming the MLDS concept to its distribution system design.

III. IMPLEMENTATION

As discussed in Section I, UT-PA will develop an outreach capability to cover several counties and hundreds of square miles spanning the Lower Rio Grande Valley. To achieve this goal, the University will invest resources and personnel to develop a wide array of educational and cultural programming which will include a variety of topics. Building on its distance learning initiative, UT-PA will employ the MLDS technology to the following areas:

A. Continuing Education Projects

The MLDS technology will be adapted as a two-way distribution system for courses offered by UT-PA's English Language Institute. This will provide a prodigious capability to distribute English language improvement courses throughout the Lower Rio Grande Valley region. Transmission of this material will create learning opportunities for a large segment of the population currently unable to enroll in these courses due to geographic isolation. The improvement of language skills is a subject of major social, economic and political concern to the local populace.

UT-PA's technical plan will also provide a platform for the distribution of other adult continuing education programs to receive sites throughout the Rio Grande Valley. Attendant to the

rapid growth the area is experiencing, a substantial and increasing demand has developed for continuing education in the professional disciplines. Highly specialized areas the University will serve include the legal community, the medical community and a host of corporate entities desiring additional training for their engineering and technical professionals. The University has programs offering degrees in manufacturing, mechanical and electrical engineering. A number of courses will be brought into the University by means of our existing video network. Much of this programming will then be retransmitted simultaneously through the MLDS system, thereby offering the residents of the Rio Grande Valley access to engineering courses originating from other component institutions of the UT System. A significant portion of this programming will be produced in both English and Spanish to offer service to all members of the community.

B. University Bulletin Board and Registration Channel

With this service we will provide a medium to disseminate, on a 24 hour per day basis, information critical to both the student population and the community at large. UT-PA currently offers registration by telephone. An information channel will allow for the timely and continuous updating of course availability in the student's home. Notices pertaining to the opening and closing of sections will be made available instantly throughout the entire enrollment period. The MLDS system will be set up to handle the registration process itself via an interactive response

channel. Additionally, two-way voice capabilities will provide on-line, interactive, student counseling and a limited level of course selection advisement.

C. Credit Bearing Course-Work

A number of channels will be used to air material approved by the State of Texas Higher Education Coordinating Board. These courses will be taken for full college credit as part of a program that culminates in the granting of a university degree. Because of the interactive nature of the system, virtually any course in the catalog not requiring a laboratory session will be available for transmission. In that respect, the proposal will rapidly surpass the maximum capabilities of a conventional ITFS system. UT-PA already receives credit bearing course-work from other component institutions in the UT System. These courses, along with locally produced classes, will be made available to students.

Programming immediately adaptable to our use of the MLDS technology includes both graduate and undergraduate courses in the following disciplines:

UT Component	Area of Study	Level
UT at Austin	Pharmacy	Undergraduate
	Ed. Administration	Doctoral
	Library Science	Masters
	Engineering	Undergraduate
	Engineering	Masters
UTHSC San Antonio	Pharmacy	Undergraduate
	Nursing	Masters
UTHSC Houston	Nursing	Masters

	Public Health	Masters
UT at Arlington	Engineering	Undergraduate
	Engineering	Masters
UT at San Antonio	Engineering	Undergraduate

All of these disciplines are areas that are critical to the continued growth and economic development of the region. The availability of these courses in the local area will, in many cases, mean the difference in a minority student's ability to complete his or her education. The distances involved in reaching the originating sites make direct attendance prohibitive for the vast majority of UT-PA's students.

D. **Concurrent Enrollment**

Texas public schools currently support tracks identified as the College Prep and Honors programs. By establishing send/ receive sites at high schools within the Rio Grande Valley, UT-PA will provide college bound students with freshman level courses allowing them to earn semester credit hours while still in high school. This services two worthy goals. First, it accelerates a student's progress and enrolls him or her in the University earlier than is otherwise possible. Additionally, it will, over time, serve to effectively reduce the amount of time much of the freshman population will spend on campus. A direct byproduct of this relief will be the increased potential for significant redistribution of fiscal resources.

E. The Hispanic Educational Satellite System

UT-PA is a participant in the formation of the Hispanic Educational Satellite System, comprised of institutions of higher learning with predominantly Hispanic student populations. The consortium's member institutions are:

Ana G. Mendez University System, Puerto Rico
Eugenio Maria de Hostos Community College
Heritage College
Laredo State University
Mississippi University for Women
New Mexico Highlands University
Roosevelt University
Seton Hall University
South Mountain Community College
The University of New Mexico
The University of Texas at Brownsville
The University of Texas - Pan American

The consortium's purpose is to operate, program and maintain a non-commercial, educational satellite system interconnecting colleges and universities with substantial Hispanic populations in the United States, as well as in Mexico, Latin America and Spain. The consortium allows these institutions to share credit and non-credit courses, teleconferences, instructors and other instructional and educational resources. The member institutions will transmit to, and receive educational material from, the Morelos satellites along with a selection of domestic satellites carrying KU band signals. Not unlike the Black College Satellite Network, the HESS is designed to ensure equal access to, and the delivery of, high quality educational and cultural programming to

large concentrations of the Hispanic population which historically have not had the opportunity to receive such material.

UT-PA's facility, employing the MLDS technology conformed to our distance learning model, will provide the means to deliver this programming beyond the boundaries of the traditional classroom. Much of the program content transferred from the satellite network will be transmitted in Spanish as well as English. Due to the two-way capability of our facility, material produced at sites located off campus will also be available for distribution through the satellite network, thus providing the people of the Rio Grande Valley an exceptional ability to reach out on a national and an international basis.

F. Student Government Access, Student News and Cultural Affairs

Our system will provide adequate bandwidth for channels devoted to student government, student news, student issues and cultural programming. As a commuter campus, the benefits of this type of service to the community will be immeasurable. The two-way interactive capability of the MLDS technology as applied in this setting will permit a wide range of student events and activities to be covered from remote sites as well as from a studio facility. Additionally, cultural events ranging from folkloric dancing to University-sponsored recitals will be aired along with sporting events and other activities of interest to the students and citizens of the Rio Grande Valley.

G. Remote Teleconferencing

The cellular nature of the proposed system provides the ability to conduct remote site teleconferences with tremendous educational opportunities. The appearance of the Pulitzer Prize winning author on the campus of The University of Texas at Austin will no longer be limited to the number of students that can be seated in a single auditorium. Rather, it will be expanded to include the number of facilities that could be made available to send and receive interactive signals within the cellular network. Additionally, other feeds from the existing digital video network gathered from around the State will be aired interactively throughout the MLDS system, taking full advantage of the system's ability to provide unique programming to individual cells. This type of programming will include a wide variety of topics ranging from clinical assessment to professional development programs.

H. The University Texas System MLDS Initiatives

The University of Texas System Office of Telecommunication Services (OTS) provides voice, video and computer telecommunication services to all fifteen component institutions of The University of Texas System. In this role, OTS coordinates the introduction of new communication technology within The University of Texas System and across the membership of the state-wide regional network, THEnet, the Texas Higher Education Network.

OTS views the MLDS technology as a viable medium for the connection of metropolitan education and research organizations to the emerging National Research and Education Network (NREN). Specifically, OTS is interested in pursuing the possibility of offering Switched Multimegabit Data Services (SMDS) and Frame Relay connections via this medium. Today, these effective networking technologies have minimal presence in the State because of the lead time required for establishing public utility tariffs. MLDS offers a valuable and timely alternative to local exchange carrier services for conducting experiments in the testing of these new high bandwidth packet based communications methods.

As a development vehicle, OTS intends to work with The University of Texas - Pan American, and appropriate packet switch providers, to establish test links between existing inter-exchange carrier points of presence and the University campus. These links will enable the testing of overall MLDS performance for these protocols including throughput and reliability. If the tests verify that MLDS is indeed useful for these purposes, efforts will be taken to introduce similar links in other major cities across the State of Texas.

IV. CONCLUSION

UT-PA's request for a pioneer's preference is predicated upon the Suite 12 Group model enhanced by our own research and experimentation in the distance learning field. UT-PA's innovative applications of this technology will, we believe, have a profound

impact on the quality of life among residents of the Rio Grande Valley. For this reason, a grant of this preference request will inure to the public interest.

Respectfully submitted,

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